

<221> VARIANT
 <222> (8)
 <223> Xaa is Ala, Gln, Gly, Lys or Thr

 <220>
 <221> VARIANT
 <222> (9)
 <223> Xaa is Arg, Asn, Asp, Glu or Gly

 <220>
 <221> VARIANT
 <222> (10)
 <223> Xaa is Gln, Leu or Gly

 <220>
 <221> VARIANT
 <222> (11)
 <223> Xaa is Ala, Trp or Tyr

 <220>
 <221> VARIANT
 <222> (12)
 <223> Xaa is Ala, Gly, His, Phe, Thr or Val

 <220>
 <221> VARIANT
 <222> (14)
 <223> Xaa is Asn, Gln, Phe, Ser or Val

 <220>
 <221> VARIANT
 <222> (15)
 <223> Xaa is Arg, Leu, Pro or Ser

 <220>
 <221> VARIANT
 <222> (16)
 <223> Xaa is Leu, Ser, Trp or Tyr

 <400> 1
 Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa
 1 5 10 15

 <210> 2
 <211> 16
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: family of
 preferred CEA binding moieties

 <220>
 <221> VARIANT
 <222> (1)
 <223> Xaa is Asn or Asp

<220>
 <221> VARIANT
 <222> (6)
 <223> Xaa is Phe, Met, Leu or Asn

<220>
 <221> VARIANT
 <222> (7)
 <223> Xaa is Asp, Gly, Ile, Lys, Phe or Thr

<220>
 <221> VARIANT
 <222> (9)
 <223> Xaa is Arg, Asn, Asp, Glu, Gly or Trp

<220>
 <221> VARIANT
 <222> (12)
 <223> Xaa is Ala, Gly, His, Phe, Thr, Tyr or Val

<220>
 <221> VARIANT
 <222> (15)
 <223> Xaa is Arg, Leu, Pro or Ser

<220>
 <221> VARIANT
 <222> (16)
 <223> Xaa is Leu, Ser, Trp or Tyr

<400> 2
 Xaa Trp Val Cys Glu Xaa Xaa Lys Xaa Gln Trp Xaa Cys Asn Xaa Xaa
 1 5 10 15

<210> 3
 <211> 10
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: CEA binding
 loop

<220>
 <221> VARIANT
 <222> (2)
 <223> Xaa is Asn, Glu or Met

<220>
 <221> VARIANT
 <222> (3)
 <223> Xaa is Asn, Leu, Met or Phe

<220>
 <221> VARIANT

<222> (4)
<223> Xaa is Asp, Gly, Ile, Lys, Phe or Thr

<220>
<221> VARIANT
<222> (5)
<223> Xaa is Ala, Gln, Gly, Lys or Thr

<220>
<221> VARIANT
<222> (6)
<223> Xaa is Arg, Asn, Asp, Glu or Gly

<220>
<221> VARIANT
<222> (7)
<223> Xaa is Gln, Gly or Leu

<220>
<221> VARIANT
<222> (8)
<223> Xaa is Ala, Trp or Tyr

<220>
<221> VARIANT
<222> (9)
<223> Xaa is Ala, Gly, His, Phe, Thr or Val

<400> 3
Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys
1 5 10

<210> 4
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: CEA binding
polypeptide

<400> 4
Asn Trp Val Cys Asn Leu Phe Lys Asn Gln Trp Phe Cys Asn Ser Tyr
1 5 10 15

<210> 5
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: CEA binding
polypeptide

<400> 5

Asp Trp Val Cys Glu Asn Lys Lys Asp Gln Trp Thr Cys Asn Leu Leu
 1 5 10 15

<210> 6
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: CEA binding
 polypeptide

<400> 6
 Asn Trp Asp Cys Met Phe Gly Ala Glu Gly Trp Ala Cys Ser Pro Trp
 1 5 10 15

<210> 7
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: CEA binding
 polypeptide

<400> 7
 Asp Trp Val Cys Glu Lys Thr Thr Gly Gly Tyr Val Cys Gln Pro Leu
 1 5 10 15

<210> 8
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: CEA binding
 polypeptide

<400> 8
 Asn Trp Phe Cys Glu Met Ile Gly Arg Gln Trp Gly Cys Val Pro Ser
 1 5 10 15

<210> 9
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: CEA binding
 polypeptide

<400> 9
 Asp Trp Val Cys Asn Phe Asp Gln Gly Leu Ala His Cys Phe Pro Ser

<210> 10
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: parental
domain for design of microprotein display library

<220>
<221> VARIANT
<222> (1)..(12)
<223> amino acid positions 4 and 9 are invariant Cys;
all other positions Xaa are varied but not Cys, to
provide a library of 2x10(8) different peptides
based on the template sequence

<400> 10
Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa
1 5 10

<210> 11
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: parental
domain for design of microprotein display library

<220>
<221> VARIANT
<222> (1)..(11)
<223> amino acid positions 3 and 9 are invariant Cys;
all other positions Xaa are varied but not Cys, to
provide a library of 1x10(9) different peptides
based on the template sequence

<400> 11
Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa
1 5 10

<210> 12
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: parental
domain for design of microprotein display library

<220>

<221> VARIANT
 <222> (1)..(12)
 <223> amino acid positions 3 and 10 are invariant Cys;
 all other positions Xaa are varied but not Cys, to
 provide a library of 1×10^9 different peptides
 based on the template sequence

<400> 12
 Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa
 1 5 10

<210> 13
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: parental
 domain for design of microprotein display library

<220>
 <221> VARIANT
 <222> (1)..(16)
 <223> amino acid positions 4 and 13 are invariant Cys;
 all other positions Xaa are varied but not Cys, to
 provide a library of 2.5×10^8 different peptides
 based on the template sequence

<400> 13
 Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa
 1 5 10 15

<210> 14
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: variable
 sublibrary sequence used in designing focused
 secondary library

<220>
 <221> VARIANT
 <222> (1)..(3)
 <223> Xaa is any amino acid except Cys

<220>
 <221> VARIANT
 <222> (5)..(6)
 <223> Xaa is any amino acid except Cys

<400> 14
 Xaa Xaa Xaa Cys Xaa Xaa Lys Lys Asp Gln Trp Thr Cys Asn Leu Leu
 1 5 10 15

<210> 15
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: variable
sublibrary sequence used in designing focused
secondary library

<220>
<221> VARIANT
<222> (5)..(9)
<223> Xaa is any amino acid except Cys

<400> 15
Asp Trp Val Cys Xaa Xaa Xaa Xaa Xaa Gln Trp Thr Cys Asn Leu Leu
1 5 10 15

<210> 16
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: variable
sublibrary sequence used in designing focused
secondary library

<220>
<221> VARIANT
<222> (8)..(12)
<223> Xaa is any amino acid except Cys

<400> 16
Asp Trp Val Cys Glu Asn Lys Xaa Xaa Xaa Xaa Xaa Cys Asn Leu Leu
1 5 10 15

<210> 17
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: variable
sublibrary sequence used in designing focused
secondary library

<220>
<221> VARIANT
<222> (11)..(12)
<223> Xaa is any amino acid except Cys

<220>
 <221> VARIANT
 <222> (14)..(16)
 <223> Xaa is any amino acid except Cys

 <400> 17
 Asp Trp Val Cys Glu Asn Lys Lys Asp Gln Xaa Xaa Cys Xaa Xaa Xaa
 1 5 10 15

<210> 18
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: variable
 sublibrary sequence used in designing focused
 secondary library

<220>
 <221> VARIANT
 <222> (6)..(7)
 <223> Xaa is any amino acid except Cys

<220>
 <221> VARIANT
 <222> (9)
 <223> Xaa is any amino acid except Cys

<220>
 <221> VARIANT
 <222> (12)
 <223> Xaa is any amino acid except Cys

<220>
 <221> VARIANT
 <222> (15)
 <223> Xaa is any amino acid except Cys

<400> 18
 Asp Trp Val Cys Glu Xaa Xaa Lys Xaa Gln Trp Xaa Cys Asn Xaa Leu
 1 5 10 15

<210> 19
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: variable
 sublibrary sequence used in designing focused
 secondary library

<220>
 <221> VARIANT

<222> (5)..(7)

<223> Xaa is any amino acid except Cys

<220>

<221> VARIANT

<222> (9)

<223> Xaa is any amino acid except Cys

<220>

<221> VARIANT

<222> (12)

<223> Xaa is any amino acid except Cys

<400> 19

Asn	Trp	Val	Cys	Xaa	Xaa	Xaa	Lys	Xaa	Gln	Trp	Xaa	Cys	Asn	Ser	Tyr
1				5					10					15	

<210> 20

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: variable
sublibrary sequence used in designing focused
secondary library

<220>

<221> VARIANT

<222> (1)

<223> Xaa is any amino acid except Cys

<220>

<221> VARIANT

<222> (3)

<223> Xaa is any amino acid except Cys

<220>

<221> VARIANT

<222> (14)..(16)

<223> Xaa is any amino acid except Cys

<400> 20

Xaa	Trp	Xaa	Cys	Asn	Leu	Phe	Lys	Asn	Gln	Trp	Phe	Cys	Xaa	Xaa	Xaa
1				5					10					15	

<210> 21

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: isolate of
TN10/9 library found not to bind CEA

<400> 21
 Asn Trp Arg Cys Lys Leu Phe Pro Arg Tyr Pro Tyr Cys Ser Ser Trp
 1 5 10 15

<210> 22
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: isolate of
 TN10/9 library found not to bind CEA

<400> 22
 Arg Tyr Cys Glu Phe Phe Pro Trp Ser Leu His Cys Gly Arg Pro
 1 5 10 15

<210> 23
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: conserved
 amino acid positions in first family of CEA
 binding peptides

<220>
 <221> VARIANT
 <222> (6)
 <223> X is Asn, Leu, Met or Phe

<220>
 <221> VARIANT
 <222> (7)
 <223> X is Asp, Gly, Ile, Lys, Phe or Thr

<220>
 <221> VARIANT
 <222> (9)
 <223> X is Arg, Asn, Asp, Glu or Gly

<220>
 <221> VARIANT
 <222> (12)
 <223> X is Ala, Gly, His, Phe, Thr or Val

<220>
 <221> VARIANT
 <222> (15)
 <223> X is Arg, Leu, Pro or Ser

<400> 23
 Asp Trp Val Cys Glu Xaa Xaa Lys Xaa Gln Trp Xaa Cys Asn Xaa Leu
 1 5 10 15

<210> 24
<211> 27
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic CEA
binding peptide with C-terminal immobilization
sequence

<400> 24
Ser Asn Trp Val Cys Asn Leu Phe Lys Asn Gln Trp Phe Cys Asn Ser
1 5 10 15
Tyr Ala Pro Gly Gly Glu Gly Gly Gly Ser Lys
20 25

<210> 25
<211> 27
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic CEA
binding peptide with C-terminal immobilization
sequence

<400> 25
Ser Asp Trp Val Cys Glu Asn Lys Lys Asp Gln Trp Thr Cys Asn Leu
1 5 10 15
Leu Ala Pro Gly Gly Glu Gly Gly Gly Ser Lys
20 25

<210> 26
<211> 27
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic CEA
binding peptide with C-terminal immobilization
sequence

<400> 26
Ser Asn Trp Asp Cys Met Phe Gly Ala Glu Gly Trp Ala Cys Ser Pro
1 5 10 15
Trp Ala Pro Gly Gly Glu Gly Gly Gly Ser Lys
20 25

<210> 27

<211> 27
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: synthetic CEA
 binding peptide with C-terminal immobilization
 sequence

 <400> 27
 Ser Asp Trp Val Cys Glu Leu Thr Thr Gly Gly Tyr Val Cys Gln Pro
 1 5 10 15

 Leu Ala Pro Gly Gly Glu Gly Gly Gly Ser Lys
 20 25

 <210> 28
 <211> 10
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: C-terminal
 sequence for immobilizing peptides

 <400> 28
 Ala Pro Gly Gly Glu Gly Gly Gly Ser Lys
 1 5 10

 <210> 29
 <211> 16
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: template
 sequence for sublibrary used in construction of
 focused secondary display library

 <220>
 <221> VARIANT
 <222> (1)..(3)
 <223> X is any amino acid except Cys

 <220>
 <221> VARIANT
 <222> (5)..(6)
 <223> X is any amino acid except Cys

 <400> 29
 Xaa Xaa Xaa Cys Xaa Xaa Lys Lys Asp Gln Trp Thr Cys Asn Leu Leu
 1 5 10 15

 <210> 30

<211> 16
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: template
 sequence for sublibrary used in construction of
 focused secondary display library

 <220>
 <221> VARIANT
 <222> (5)..(9)
 <223> X is any amino acid except Cys

 <400> 30
 Asp Trp Val Cys Xaa Xaa Xaa Xaa Xaa Gln Trp Thr Cys Asn Leu Leu
 1 5 10 15

 <210> 31
 <211> 16
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: template
 sequence for sublibrary used in construction of
 focused secondary display library

 <220>
 <221> VARIANT
 <222> (8)..(12)
 <223> X is any amino acid except Cys

 <400> 31
 Asp Trp Val Cys Glu Asn Lys Xaa Xaa Xaa Xaa Xaa Cys Asn Leu Leu
 1 5 10 15

 <210> 32
 <211> 16
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: template
 sequence for sublibrary used in construction of
 focused secondary display library

 <220>
 <221> VARIANT
 <222> (11)..(12)
 <223> X is any amino acid except Cys

 <220>
 <221> VARIANT
 <222> (14)..(16)

<223> X is any amino acid except Cys

<400> 32

Asp	Trp	Val	Cys	Glu	Asn	Lys	Lys	Asp	Gln	Xaa	Xaa	Cys	Xaa	Xaa	Xaa
1				5					10					15	

<210> 33

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: template
sequence for sublibrary used in construction of
focused secondary display library

<220>

<221> VARIANT

<222> (6)..(7)

<223> X is any amino acid except Cys

<220>

<221> VARIANT

<222> (9)

<223> X is any amino acid except Cys

<220>

<221> VARIANT

<222> (12)

<223> X is any amino acid except Cys

<220>

<221> VARIANT

<222> (15)

<223> X is any amino acid except Cys

<400> 33

Asp	Trp	Val	Cys	Glu	Xaa	Xaa	Lys	Xaa	Gln	Trp	Xaa	Cys	Asn	Xaa	Leu
1				5					10					15	

<210> 34

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: template
sequence for sublibrary used in construction of
focused secondary display library

<220>

<221> VARIANT

<222> (5)..(7)

<223> X is any amino acid except Cys

<220>
 <221> VARIANT
 <222> (9)
 <223> X is any amino acid except Cys

<220>
 <221> VARIANT
 <222> (12)
 <223> X is any amino acid except Cys

<400> 34
 Asn Trp Val Cys Xaa Xaa Xaa Lys Xaa Gln Trp Xaa Cys Asn Ser Tyr
 1 5 10 15

<210> 35
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: template
 sequence for sublibrary used in construction of
 focused secondary display library

<220>
 <221> VARIANT
 <222> (1)
 <223> X is any amino acid except Cys

<220>
 <221> VARIANT
 <222> (3)
 <223> X is any amino acid except Cys

<220>
 <221> VARIANT
 <222> (14)..(16)
 <223> X is any amino acid except Cys

<400> 35
 Xaa Trp Xaa Cys Asn Leu Phe Lys Asn Gln Trp Phe Cys Xaa Xaa Xaa
 1 5 10 15

<210> 36
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: family of CEA
 binding polypeptides

<220>
 <221> VARIANT
 <222> (1)

<223> Xaa is Asp, Asn, Ala or Ile

 <220>
 <221> VARIANT
 <222> (3)
 <223> Xaa is Val, Ile, Met, Tyr, Phe, Pro or Asp

 <220>
 <221> VARIANT
 <222> (5)
 <223> Xaa is Asn, Glu or Asp

 <220>
 <221> VARIANT
 <222> (6)
 <223> Xaa is Leu, Phe, Tyr, Trp, Val Met, Ile or Asn

 <220>
 <221> VARIANT
 <222> (7)
 <223> Xaa is Phe, Leu, Asp, Glu, Ala, Ile, Lys, Asn,
 Ser, Val, Trp or Tyr

 <220>
 <221> VARIANT
 <222> (8)
 <223> Xaa is Lys, Phe, Asp, Gly, Leu, Asn or Trp

 <220>
 <221> VARIANT
 <222> (9)
 <223> Xaa is Asn, Pro, Phe, Gly, Asp, Ala, Ser, Glu, Gln
 or Trp

 <220>
 <221> VARIANT
 <222> (10)
 <223> Xaa is Gln or Lys

 <220>
 <221> VARIANT
 <222> (12)
 <223> Xaa is Phe, Thr, Met, Ser, Ala, Asn, Val, His,
 Ile, Pro, Trp or Tyr

 <220>
 <221> VARIANT
 <222> (14)
 <223> Xaa is Asn, Asp, Glu, Pro, Gln or Ser

 <220>
 <221> VARIANT
 <222> (15)
 <223> Xaa is Val, Leu, Ile, Pro, Ala, Gln, Ser, Met,
 Glu,Thr, Lys or Trp

 <220>

<221> VARIANT

<222> (16)

<223> Xaa is Leu, Met, Val, Tyr, Ala, Ile, Trp, His,
Pro, Gln, Glu, Phe, Lys or Arg

<400> 36

Xaa Trp Xaa Cys Xaa Xaa Xaa Xaa Xaa Trp Xaa Cys Xaa Xaa Xaa
1 5 10 15

<210> 37

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: CEA binding
polypeptide

<400> 37

Asp Trp Met Cys Asn Leu Phe Lys Asn Gln Trp Phe Cys Asp Leu Met
1 5 10 15

<210> 38

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: CEA binding
polypeptide

<400> 38

Asp Trp Val Cys Asn Leu Phe Lys Asn Gln Trp Phe Cys Asp Leu Met
1 5 10 15

<210> 39

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: CEA binding
polypeptide

<400> 39

Asp Trp Ile Cys Asn Leu Phe Lys Asn Gln Trp Phe Cys Asp Gln Met
1 5 10 15

<210> 40

<211> 16

<212> PRT

<213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: CEA binding
 polypeptide

<400> 40
 Asn Trp Ile Cys Asn Leu Phe Lys Asn Gln Trp Phe Cys Asp Gln Glu
 1 5 10 15

<210> 41
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: CEA binding
 polypeptide

<400> 41
 Asp Trp Ile Cys Asn Leu Phe Lys Asn Gln Trp Phe Cys Gln Val Lys
 1 5 10 15

<210> 42
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: CEA binding
 polypeptide

<400> 42
 Asp Trp Val Cys Asn Leu Phe Lys Asn Gln Trp Phe Cys Asp Val Met
 1 5 10 15

<210> 43
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: CEA binding
 polypeptide

<400> 43
 Asp Trp Met Cys Asn Leu Phe Lys Asn Gln Trp Phe Cys Asp Gln Ile
 1 5 10 15

<210> 44
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: CEA binding
polypeptide

<400> 44

Ile Trp Asp Cys Asn Leu Phe Lys Asn Gln Trp Phe Cys Pro Ala Pro
1 5 10 15

<210> 45

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: CEA binding
polypeptide

<400> 45

Asp Trp Ile Cys Asn Leu Phe Lys Asn Gln Trp Phe Cys Asp Ile Arg
1 5 10 15

<210> 46

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: CEA binding
polypeptide

<400> 46

Asp Trp Met Cys Asn Leu Phe Lys Asn Gln Trp Phe Cys Asp Val Val
1 5 10 15

<210> 47

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: CEA binding
polypeptide

<400> 47

Asp Trp Ile Cys Asn Leu Phe Lys Asn Gln Trp Phe Cys Asp Ala Ile
1 5 10 15

<210> 48

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: CEA binding

polypeptide

<400> 48

Asp Trp Ile Cys Asn Leu Phe Lys Asn Gln Trp Phe Cys Asp Met Ala
1 5 10 15

<210> 49

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: CEA binding
polypeptide

<400> 49

Asp Trp Val Cys Glu Phe Leu Lys Met Gln Trp Ala Cys Asn Val Leu
1 5 10 15

<210> 50

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: CEA binding
polypeptide

<400> 50

Asp Trp Val Cys Asn Leu Phe Lys Asn Gln Trp Phe Cys Asn Val Met
1 5 10 15

<210> 51

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: CEA binding
polypeptide

<400> 51

Ala Trp Pro Cys Asn Leu Phe Lys Asn Gln Trp Phe Cys Pro Pro Gln
1 5 10 15

<210> 52

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: CEA binding
polypeptide

<400> 52
 Asp Trp Val Cys Asn Leu Phe Lys Asn Gln Trp Phe Cys Asp Val Leu
 1 5 10 15

<210> 53
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: CEA binding
 polypeptide

<400> 53
 Asp Trp Val Cys Asn Leu Phe Lys Asn Gln Trp Phe Cys Asp Lys Trp
 1 5 10 15

<210> 54
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: CEA binding
 polypeptide

<400> 54
 Asp Trp Val Cys Glu Trp Leu Lys Met Gln Trp Ala Cys Asn Met Leu
 1 5 10 15

<210> 55
 <211> 16
 <212> PRT
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<400> 55
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<210> 56
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<400> 56

Asp Trp Val Cys Glu Met Phe Lys Ala Gln Trp Phe Cys Asn Ala Leu
1 5 10 15

<210> 57

<211> 16

<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence: CEA binding
polypeptide

<400> 57

Asp Trp Ile Cys Asn Leu Phe Lys Asn Gln Trp Phe Cys Asp Ala Trp
1 5 10 15

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<211> 16

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<213> Artificial Sequence

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polypeptide

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1 5 10 15

<210> 59

<211> 16

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<223> Description of Artificial Sequence: CEA binding
polypeptide

<400> 59

Asp Trp Val Cys Glu Tyr Phe Lys Asn Gln Trp Phe Cys Asn Val Leu
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<211> 16

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<223> Description of Artificial Sequence: CEA binding
polypeptide

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<210> 65

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polypeptide

<400> 66

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polypeptide

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1 5 10 15

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polypeptide

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1 5 10 15

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polypeptide

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1 5 10 15

<210> 70
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polypeptide

<400> 70
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1 5 10 15

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polypeptide

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1 5 10 15

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polypeptide

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1 5 10 15

<210> 73
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<400> 73
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1 5 10 15

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1 5 10 15

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polypeptide

<400> 76
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1 5 10 15

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polypeptide

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Asp Trp Val Cys Asn Leu Phe Lys Asn Gln Trp Phe Cys Asp Ser Leu
1 5 10 15

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polypeptide

<400> 78
Asp Trp Val Cys Glu Phe Met Lys His Gln Trp Phe Cys Asn Pro Leu
1 5 10 15

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1 5 10 15

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<400> 80
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1 5 10 15

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 1 5 10 15

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 1 5 10 15

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 Asp Trp Val Cys Asn Leu Phe Lys Asn Gln Trp Phe Cys Asp Thr Leu
 1 5 10 15

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 <400> 84
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 1 5 10 15

 <210> 85
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polypeptide

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1 5 10 15

<210> 86
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polypeptide

<400> 86
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1 5 10 15

<210> 87
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1 5 10 15

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1 5 10 15

<210> 89
<211> 16
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polypeptide

<400> 89

Asp Trp Ile Cys Asn Leu Phe Lys Asn Gln Trp Phe Cys Gln Gln His
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polypeptide

<400> 90

Asp Trp Val Cys Asn Trp Leu Trp Gly Gln Trp Thr Cys Asn Leu Leu
1 5 10 15

<210> 91

<211> 16

<212> PRT

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polypeptide

<400> 91

Asp Trp Val Cys Glu Met Phe Lys Lys Gln Trp Val Cys Asn Pro Leu
1 5 10 15

<210> 92

<211> 16

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1 5 10 15

<210> 93

<211> 16

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<211> 16

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<223> Description of Artificial Sequence: CEA binding
polypeptide

<400> 94

Asp	Trp	Val	Cys	Glu	Asn	Lys	Asn	Phe	Lys	Trp	Phe	Cys	Asn	Leu	Leu
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<223> Description of Artificial Sequence: CEA binding
polypeptide

<400> 95

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<210> 96

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polypeptide

<400> 96

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<400> 97
 Asn Trp Val Cys Asp Tyr Trp Lys Pro Gln Trp Phe Cys Asn Ser Tyr
 1 5 10 15

<210> 98
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 polypeptide

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 Asp Trp Tyr Cys Asn Leu Phe Lys Asn Gln Trp Phe Cys Asp Leu Val
 1 5 10 15

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<210> 100
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 1 5 10 15

<210> 101
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polypeptide

<400> 101
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1 5 10 15

<210> 102
<211> 16
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polypeptide

<400> 102
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1 5 10 15

<210> 103
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polypeptide

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1 5 10 15

<210> 104
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polypeptide

<400> 104
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1 5 10 15

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polypeptide

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<210> 106

<211> 16

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polypeptide

<400> 106

Asp Trp Val Cys Glu Phe Phe Gly Met Gln Trp Thr Cys Asn Leu Leu
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<210> 107

<211> 16

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polypeptide

<400> 107

Asp Trp Val Cys Glu Tyr Ala Lys Phe Gln Trp Ile Cys Asn Ile Leu
1 5 10 15

<210> 108

<211> 16

<212> PRT

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polypeptide

<400> 108

Asp Trp Ile Cys Asn Leu Phe Lys Asn Gln Trp Phe Cys Asn Glu Ala
1 5 10 15

<210> 109

<211> 16

<212> PRT

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<223> Description of Artificial Sequence: synthetic
16-mer microprotein analogues

<400> 109
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 1 5 10 15

<210> 110
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 16-mer microprotein analogues

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 Val, Trp, Tyr, Gly or Thr

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 or Thr

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<400> 110

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys
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<210> 111

<211> 16

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16-mer microprotein analogues

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or Thr

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16-mer microprotein analogues

<400> 112

Asp Trp Val Cys Glu Trp Leu Lys Met Gln Trp Ala Cys Asn Ile Leu
1 5 10 15

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16-mer microprotein analogues

<400> 113

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16-mer microprotein analogues

<400> 114

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16-mer microprotein analogues

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16-mer microprotein analogues

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 16-mer microprotein analogues

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<210> 118
 <211> 16
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 16-mer microprotein analogues

<400> 118
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 1 5 10 15

<210> 119
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 16-mer microprotein analogues

<400> 119
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 1 5 10 15

<210> 120
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 16-mer microprotein analogues

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 1 5 10 15

<210> 121
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 16-mer microprotein analogues

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 1 5 10 15

<210> 122
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 16-mer microprotein analogues

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 16-mer microprotein analogues

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 16-mer microprotein analogues

<400> 124
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 1 5 10 15

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16-mer microprotein analogues

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1 5 10 15

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16-mer microprotein analogues

<400> 126

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16-mer microprotein analogues

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1 5 10 15

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16-mer microprotein analogues

<400> 128

Asp Trp Val Cys Asn Leu Phe Lys Asn Gln Trp Phe Cys Asn Val Leu
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16-mer microprotein analogues

<400> 129

Asp Trp Val Cys Asn Leu Phe Lys Asn Gln Trp Phe Cys Asp Val Met
1 5 10 15

<210> 130

<211> 16

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<223> Description of Artificial Sequence: synthetic
16-mer microprotein analogues

<400> 130

Asp Trp Val Cys Glu Trp Phe Lys Ala Gln Trp Phe Cys Asn Met Leu
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<210> 131

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16-mer microprotein analogues

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 16-mer microprotein analogues

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16-mer microprotein analogues

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 16-mer microprotein analogues

Asp	Trp	Val	Cys	Glu	Trp	Leu	Lys	Met	Gln	Trp	Ala	Cys	Asn	Val	Leu
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<210> 143
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 16-mer microprotein analogues

Asp	Trp	Val	Cys	Glu	Trp	Leu	Lys	Met	Gln	Trp	Ala	Cys	Asn	Met	Leu
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<210> 144
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 <212> PRT
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 16-mer microprotein analogues

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<210> 145
 <211> 16
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 16-mer microprotein analogues

Asp	Trp	Val	Cys	Asn	Leu	Phe	Lys	Asn	Gln	Trp	Phe	Cys	Asp	Leu	Ser
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

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15

<210> 146

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic
16-mer microprotein analogues

<400> 146

Asp	Trp	Val	Cys	Glu	Trp	Leu	Lys	Ser	Gln	Trp	Phe	Cys	Asn	Ser	Leu
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16-mer microprotein analogues

<400> 147

Asp	Trp	Val	Cys	Glu	Phe	Ile	Lys	Ser	Gln	Trp	Phe	Cys	Asn	Val	Leu
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<210> 148

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<223> Description of Artificial Sequence: synthetic
16-mer microprotein analogues

<400> 148

Asp	Trp	Val	Cys	Glu	Trp	Leu	Lys	His	Gln	Trp	Phe	Cys	Asn	Ala	Leu
1				5					10					15	

<210> 149

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<212> PRT

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16-mer microprotein analogues

<400> 149

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16-mer microprotein analogues

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1 5 10 15

<210> 151
<211> 16
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<223> Description of Artificial Sequence: synthetic
16-mer microprotein analogues

<400> 151
Asp Trp Val Cys Glu Phe Leu Lys Met Gln Trp Ala Cys Asn Val Leu
1 5 10 15



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A DOCPHOENIX

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